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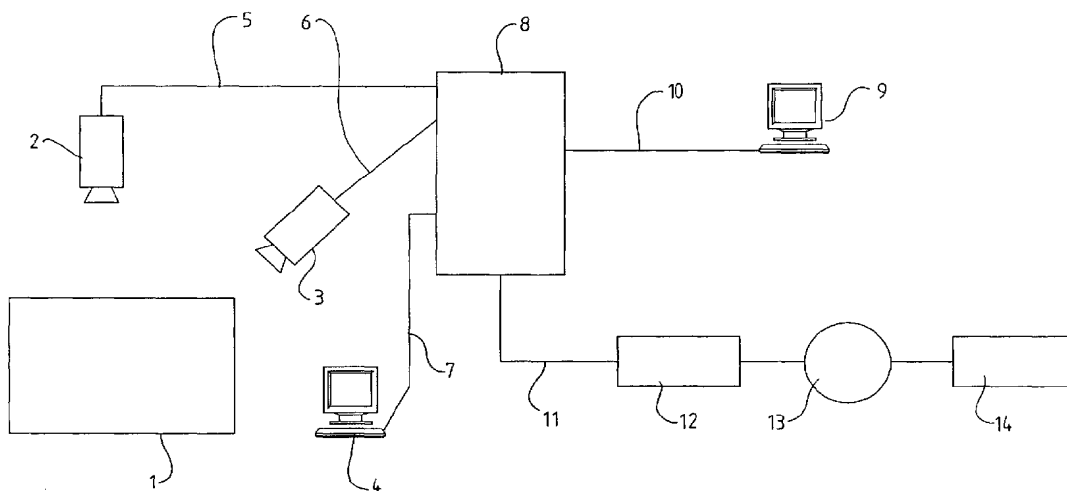
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(54) Title: A GAMBLING APPARATUS AND METHOD OF MONITORING A GAMBLING EVENT



(57) Abstract: A gambling apparatus comprising at least one sensor (2, 3) for monitoring the progress of a live gambling event (1) having a set up period and an end-result period and generating at least a still representation of the live gambling event. The apparatus also comprises a display operable to be in communication with the at least one camera or sensor (2, 3) and capable of showing the at least one still representation of the live gambling event (1). A communication link between the at least one camera or sensor (2, 3) and the display is provided. The apparatus further comprises a processor operable to be in communication with the display and to provide an animation and/or still or moving live representation of the live gambling event (1) on the display.



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"A Gambling Apparatus and Method of Monitoring a Gambling Event"

THE PRESENT INVENTION relates to an apparatus and method for remotely monitoring a live gambling event.

For many years it has been customary for legalised gambling to take place in casinos. Typically, a casino will operate a number of games, such as roulette or various card games, in which one or more players may take part and place bets on the outcome of the game. For example, in the game of roulette, a spinnable wheel is provided, having a series of numbered slots. The wheel is set spinning and a ball placed within the wheel such that as the wheel comes to a halt the ball falls into one of the slots. Prior to the spinning of the wheel, each individual playing the game places a bet on a numbered board, against the number corresponding to the numbered slot in which he predicts that the ball will fall. If an individual's prediction is correct, and he wins the bet, he is credited with an amount based on the amount of his original bet.

The problem with this type of gambling casino is that it is essential for each individual to be present within the casino while placing the bet. This can be inconvenient, especially as some jurisdictions do not permit the presence of casinos and therefore it is necessary for individuals to travel to a casino in another jurisdiction, if they wish to place a bet.

It is known to provide so-called "online gambling" arrangements in which individuals may access a central computer remotely, such as via the Internet. The central computer runs a "virtual game", simulating the games that regularly exist in a real casino, and on which individuals may place bets electronically in a manner corresponding to that at a real casino. In such an

online gambling arrangement, the central computer generates one or more "random" variables on which the result of the game is based. The problem with this type of online gambling arrangement is twofold. Firstly, it is not possible for a computer to generate a truly random variable and therefore there is a risk that individuals may eventually be able to calculate accurately or model the variable that the computer will generate, before placing their bet. Such individuals would then be able to cheat when placing bets. Secondly, and more importantly, because the individual is presented with a computer generated result which may have been produced in any way, individuals may be suspicious that the gambling arrangement is not being conducted fairly and that they do not have a reasonable chance of their bet winning. Therefore, individuals may be reluctant to use such online gambling arrangements.

It has been proposed that such online gambling arrangements be conducted around a live gambling event, which is transmitted to the individual, remotely, using a video camera and display. For example, US-A-5,800,268 discloses a gambling arrangement in which an individual is able to place bets on a live event whilst watching the event from a remote position via a telephone line connection. Thus, the individual is able to view the proceedings surrounding the live gambling event and is therefore re-assured of the fairness of the gambling arrangement. The problem with this proposal is that sending video pictures remotely requires a large bandwidth of communication. The bandwidth required is not presently available to most users of the Internet. For example, to send a normal picture requires a baud rate of 256kb. However, a typical domestic Internet connection has a maximum baud rate of 56kb and, in practice, usually achieves a baud rate of only 28kb.

The present invention seeks to alleviate one or more of the above problems.

According to a first aspect of the invention, there is provided a gambling apparatus comprising: at least one sensor for monitoring the progress of a live gambling event having a set up period and an end-result period and generating at least a still representation of the live gambling event; a display operable to be in communication with the at least one sensor and capable of showing the at least one still representation of the live gambling event; a communication link between the at least one sensor and the display; and a processor operable to be in communication with the display and to provide an animation corresponding to the status of the live gambling event on the display.

Conveniently, the at least one sensor is capable of generating at least a still representation of the live gambling event at the end-result period.

Preferably, the display provides a combination of the at least one still representation and the animation.

Advantageously, the apparatus further comprises a bandwidth monitor operable to determine information concerning the bandwidth of the communication link between the at least one sensor and the display and to vary the quantity of the data from the at least one sensor, displayed by the display in response to the bandwidth information from the bandwidth monitor.

Conveniently, the processor is provided on the communication link between the at least one sensor and the display.

Preferably, the bandwidth monitor comprises; a high frequency signal generator provided on the communication link between the at least one sensor and the processor; and signal detection means operably connected to the

processor, the high frequency signal having a series of harmonics such that, in response to the high frequency signal, the value of the frequency of the highest harmonic received is determined and communication of data to the processor at that frequency is enabled.

Advantageously, the value of the frequency of the highest harmonic received is determined periodically during communication of data between the at least one sensor and the display.

Conveniently, the value of the frequency of the highest harmonic received is determined every 100th of a second so as to allow variation of the frequency of data transmission between the at least one sensor and the display every 100th of a second.

Preferably, the communication link between the at least one sensor and the display comprises the Internet.

Advantageously, the communication link between the at least one sensor and the display comprises a telephone line.

Conveniently, the display and the processor are comprised in a personal computer.

Preferably, the at least one sensor comprises a camera for capturing an image of the live gambling event, the representation of the live gambling event being the image.

Advantageously, the image of the event shown by the display is a live video image of the event.

Conveniently, the image is a video image and means are provided to determine changing parts of the video image, the data transmitted to the display, via the processor, being supplemented only with changing parts of the video image.

Preferably, the at least one sensor comprises first and second cameras, each directable at a different view of the live gambling event.

Advantageously, the display shows an image from the first camera during the set up period and an image from the second camera during the end-result period.

Conveniently, the gambling apparatus further comprises data entry means locatable adjacent the live gambling event and operable to be in communication with the processor for entry of data relating to the status and/or end-result of the event and transmission to the processor.

According to a second aspect of the invention, there is provided a method of remotely monitoring a live gambling event having a set up period and an end-result period comprising the steps of: monitoring the progress of the live gambling event and generating at least a still representation of the event; producing an animation of the gambling event; presenting the gambling event at a location remote from the gambling event as a combination of the animation and the generated representation of the live gambling event.

Conveniently, the at least one still representation of the live gambling event comprises a still representation at the end-result period.

Preferably, the animation and the generated image are presented as a superimposition.

Advantageously, the step of monitoring the progress of the live gambling event and generating at least a still representation of the event comprises capturing at least a still image of the live gambling event.

Conveniently, the step of capturing at least a still image comprises capturing at least a first still image of a first view of the event in the setting up period and capturing at least a second image of a second view of the event in the end-result period, the first view being different from the second view.

Preferably, the captured image comprises a captured video image.

Advantageously, the step of determining the bandwidth of the communication between the gambling event and the presentation location and varying the quantity of data transmitted dependent on the bandwidth available.

Conveniently, the method is conducted using the apparatus described above.

According to a third aspect of the invention, there is provided a gambling apparatus comprising: at least one camera for capturing an image of a live gambling event having a set up period and an end-result period; a display operable to be in communication with the at least one camera and capable of showing at least a still image of the live gambling event; a communication link between the at least one camera and the display; and a processor operable to be

in communication with the display and to provide an animation corresponding to the status of the live gambling event on the display.

In order that the invention may be more readily understood and so that further features thereof may be appreciated, embodiments thereof will now be described, by way of example, with reference to the accompanying drawings in which:

Figure 1 is a schematic view of one embodiment of the invention; and

Figure 2 is a pictorial view of a display according to one embodiment of the invention.

Referring to Figure 1 in which a schematic view of one embodiment of the invention is shown, a live gambling event 1 is conducted in a casino. The live gambling event described in relation to this embodiment of the invention is roulette but it is to be appreciated that any game that could be played in a casino could be used instead, such as card games, for example blackjack. As explained earlier, it is to be appreciated that each game of roulette has a setting-up period in which bets may be placed; a spinning period in which the roulette wheel is spun and an end-result period which begins when the wheel stops spinning and the ball has fallen into one of the slots in the wheel. Accordingly, the status of the game may be defined as being within one of these three periods. The roulette game 1 is played in the usual way, and bets are placed by individuals who are physically present at the roulette table. A first camera 2 is directed at the roulette table and also the surrounding area such that the casino pit staff and any players at the table are within its field of vision.

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A second camera 3 is also provided adjacent the roulette table and is directed upon the roulette wheel itself such that the roulette wheel fills its field of vision. It is preferred that the second camera 3 is directly above the roulette wheel and therefore provides a downward view of the roulette wheel.

Also provided in the casino is a pit terminal 4 which may be a personal computer, and into which one of the casino pit staff may enter the status of each game and the end-result of each game.

Each of the first camera 2, the second camera 3, and the pit terminal 4 are connected by respective first, second and third communication lines 5, 6 & 7 to a server 8 resident in the casino. In this embodiment of the invention, the server 8 runs the Linux operating system but it is to be appreciated that, in other embodiments of the invention, different operating systems may be used. The server 8 receives the images from the first and second cameras 2 and 3 and also the data from the pit terminal 4. The server 8 also receives instructions from an operational terminal 9 via a fourth communication line 10.

The casino staff enter a variety of data into the operational terminal 9. Firstly, there is data relating to betting information on the basis of which the server 8 determines whether or not to accept large bets. Secondly, there is accounting information on the basis of which the server 8 determines the viability of the live gambling event 1. Thirdly, there is statistical information on the basis of which the server 8 detects any cheating that is being undertaken.

In response to these inputs, the server 8 generates the data required to display a web page relating to the roulette game 1. The server 8 also tests the bandwidth available, in a manner described below, and calculates the quantity

of data which can be reliably and efficiently sent on the basis of this calculation, again in a manner described below.

The data is sent from the server 8 via a fifth communication line 11 to an Internet service provider 12, which in turn transmits the data via the Internet 13 to a personal computer 14 running web browser software capable of displaying the data as a web page 15 to a remote individual operating the personal computer 14.

Referring now to Figure 2, in which an image of the web page 15 is shown, this embodiment of the invention will be further described. The web page 15 displays an animated roulette wheel 16 which has the appearance of spinning when the roulette game is in the spinning period and continues to appear to rotate until the end-result period is reached. It is preferred that the animated roulette wheel appears to be spinning in a clockwise direction in all even numbered roulette games and in an anti-clockwise direction for all odd numbered games.

Also displayed in the web page 15 is a computer generated image of the roulette table layout 17. The image of the roulette table layout 17 shows the numbers on the real roulette table and allows the user of the personal computer 14 to place bets using a "point and click" interface. The image of the roulette table layout 17 also shows each of the bets that have been placed in relation to the roulette game, pictorially.

An area of the web page 15 depicts a live image 18 of the roulette game 1, as transmitted by the first camera 2 or the second camera 3. As is described in greater detail below, the live image 18 may be a stationary, still image of the roulette game 1 or may be a continuously moving video image of the roulette

game, depending upon the bandwidth available via the connection between the server 8 and the personal computer 14.

Also displayed on the web page 15 are a number of other indications and buttons to assist the user of the personal computer 14 to place bets in relation to the roulette game 1. In particular, a timer 19, displays the time remaining in the set-up period in which bets may be placed. The game status indication 20 indicates whether the game is open for bets (i.e. the roulette game is in the set-up period) or is closed for bets (i.e. the game is in the spinning period or in the end-result period). In a results indication 21 a list of the last ten game results is displayed, with the most recent game result at the top. A lock-in button 22 can be "clicked" by the user of the personal computer 14 in order to lock in his bet. Various other indications and buttons are provided on the web page 15, as will be apparent to those of skill in the art.

In use, a game of roulette is played according to this embodiment of the present invention, as follows. At the roulette game 1, the first camera 2 is directed at the roulette table and surrounding area and this image is sent via the first communication line 5, the server 8, the fifth communication line 11, the Internet service provider 12, and the Internet 13 to the personal computer 14 and is displayed in the live image 18. The roulette game 1 is in its setting up period in which bets may be placed. The pit staff enter the status of the game in the pit terminal 4, and any bets that are placed by the individuals at the roulette game 1 and this information is transmitted via the communication line 7 to the server 8 and then, in turn, to the personal computer 14 as for the image from the first camera 2. The web page 15 thus displays the status of the game in the game status indication 20 and the animation of the roulette wheel 16 is stationary. Any bets that are placed are shown on the roulette board 17. The user of the personal computer 14 may place any bets using the "point and click"

interface on the roulette board 17 and when satisfied with the bets may click the lock-in button 22 in order to lock in the bets. Information regarding the bets placed by the remote user is transmitted to the server 8 via the Internet 13, the Internet service provider 12 and the fifth communication line 11. The server 8 then records the information regarding the bet until the end-result period.

When the duration of the set up period has expired (usually 4 minutes) no more bets are taken from individuals at the roulette game 1, the roulette wheel of the roulette game 1 is set spinning and the information regarding the change in status of the game is entered by the pit staff in the pit terminal 4. This information is transmitted to the server 8 via the third communication line 7, in response to which the server 8 switches the camera image sent to the personal computer 14 to the image from the second camera 3. The server 8 also, simultaneously, sends to the personal computer 14, the data regarding the change of status of the game. Accordingly, substantially simultaneously with the spinning of the roulette wheel on the roulette table 1, the web page 15 is updated with the change of status information such that the game status indication 20 changes to "closed" and no new bets are allowed to be placed on the roulette board 17. Furthermore, the roulette wheel animation 16 begins its spinning animation and the roulette table live image 18 displays the image from the second camera 3.

When the roulette wheel of the roulette game 1 stops spinning and the ball falls in the slots, the game enters its end-result period. The pit staff enter the end-result (i.e. the number of the slot into which the ball fell) in the pit terminal 4 and this information is transmitted to the server 8 which, in turn, sends the appropriate data to the personal computer 14. The web page 15 is thus updated, such that the new result is shown in the results indication 21, the animation of the roulette wheel 16 stops and the live image 18 of the roulette

wheel of the roulette game 1 in the end-result position is shown. If the individual using the personal computer 14 placed a winning bet then the winnings are transmitted accordingly.

After a predetermined interval, the pit staff commence a new roulette game, by clearing the table of the roulette game 1 and entering in the pit terminal 4 that a new setting up period has begun. This information is sent to the server 8, in response to which the server 8 transmits the image from the first camera 2 to the personal computer 14, together with the data regarding the change of status of the game to the personal computer 14. The web page 15 then updates the game status indication 20 to "open" to show that bets may be placed on the roulette board 17 and the image 18 of the roulette game 1 is switched to that of the view from the first camera 2. The process, as described above, may then be repeated.

In relation to the above process, it is to be appreciated that, in order to ensure that the user of the personal computer 14 is convinced of the fairness of the gambling arrangement, the live image 18 of the roulette table 1 shows the end-result of the roulette table substantially simultaneously with the end-result occurring at the live gambling event. Similarly, in order to avoid possible cheating by a user of the personal computer 14, by placing bets after the spinning period has ended, the data and images regarding the roulette game on the roulette table 1 are transmitted substantially instantaneously to the personal computer 14 and displayed on the web page 15.

In order to achieve this, a system is provided to monitor the bandwidth of the connection between the server 8 and the personal computer 14 and the quantity of video information from the first camera 2 or the second camera 3 that is transmitted from the server 8 is varied according to the bandwidth

available. In particular, a signal generator (not shown) attached to the server 8 generates a high frequency signal which is transmitted via the fifth communication line 11, to the Internet service provider 12 and then to the Internet 13 and subsequently to the personal computer 14, in addition to the data needed to update the web page 15. The high frequency signal has a series of harmonics that correspond to the exact frequencies that the server 8 has the capability to send. The personal computer 14 receives the signal and records the highest harmonic that has been received. The personal computer 14 then transmits to the server 8 the value of the highest frequency received. The server 8 then transmits data to the personal computer 14 using this frequency.

The high frequency signal is transmitted to the personal computer 14 every 100th of a second and, similarly, the personal computer 14 returns to the server 8 the value of the highest harmonic received every 100th of a second. Accordingly, the frequency of which the server 8 transmits data to the personal computer 14 is continually changeable, depending upon the available bandwidth of the connection between the server 8 and the personal computer 14.

In response to the bandwidth calculated by the server 8 to be available for transmitting data to the personal computer 14, the amount of information relating to the image from either the first camera 2 or second camera 3 that is transmitted from the server 8 is varied. In particular, if there is insufficient bandwidth for the entire video image to be sent to the personal computer 14 then only those parts of the image which are changing significantly are sent to the personal computer 14 which then updates the corresponding part of the live image 18 of the roulette game 1. If the bandwidth available for transmitting information between the server 8 and the personal computer 14 is insufficient for any form of live video image then a series of still images are displayed in

the live image 18. However, it is to be appreciated that the image 18 of the roulette table 1 must, at least, show a still image of the roulette table at the beginning of the end-result period.

While this embodiment of the invention has been described in relation to single personal computer 14, it is to be understood that in further embodiments, a plurality of personal computers could be provided, each separately in communication with the server 8. In this way, a plurality of users may place bets remotely.

As has been explained earlier, in some other embodiments of the invention, the live gambling event 1 is a game other than roulette. For example, the game may be the card game blackjack (also known as pontoon) which, in general terms, is played as follows. A plurality of card hands are dealt, each comprising two cards. In accordance with the rules of the card game, each card has a numerical value. Once each hand of two cards has been dealt, the setting up period begins in which a bet may be placed in relation to any of the card hands. Further cards are then dealt to each hand in turn in the subsequent dealing period. Finally, there is the end-result period, when the dealing for each hand is finished and the winning hand is determined as that which has the highest total value of cards, without exceeding a value of twenty one.

Accordingly, in this embodiment of the invention, the first and second cameras 2,3 are directed at a card game table on which the cards are dealt. The first camera 2 is directed at the card game table and also the surrounding area such that the casino pit staff and any players at the table are within its field of vision. The second camera 3 is directed upon the card game table itself such the any dealt card hands fill its field of vision. On the web page 15, an animation of cards being dealt is displayed instead of the animated roulette table 16 of the

first embodiment of the invention. Similarly, the computer generated image of the roulette table image 17 is replaced by a computer generated image of the dealt cards allowing the user of the personal computer 14 to place bets using a "point and click" interface. Furthermore, the live image 18 depicts the image of the cards on the table captured by the first or second camera 2,3. In other respects, the gambling apparatus is arranged substantially the same as for the first embodiment of the invention.

In use of this embodiment of the invention, the image captured by the first camera 2 is transmitted to the personal computer 14 and is displayed in the live image 18 as described in relation to the first embodiment of the invention. In accordance with the rules of the blackjack game, a plurality of card hands are dealt on the card game table and these are visible both to individuals physically present at the card game table and to the user of the personal computer 14 who may observe the image 18 of the dealt card hands. Once the card hands have been dealt, the game is in its setting up period in which bets may be placed. The pit staff enter the status of the game in the pit terminal 4, and any bets that are placed by the individuals at the card game table and this information is transmitted to the personal computer 14 as described in relation to the first embodiment of the invention. The animation of the dealt cards that is displayed corresponds to this status of the game. The user of the personal computer 14 may place bets on one or more of the dealt card hands in a manner equivalent to that described in the first embodiment.

When the duration of the set up period has expired, no more bets are accepted from individuals at the blackjack game. The pit staff prepare to deal further cards which commences the dealing period of the game that corresponds to the spinning period of the roulette game. The information regarding the change in status of the game is entered by the pit staff in the pit terminal 4. This

information is transmitted to the personal computer 14 which then updates the web page 15 in a corresponding manner as for the first embodiment of the invention. The pit staff then proceed to deal any further cards in relation to each previously dealt card hand in accordance with the rules of blackjack until each hand is finished.

When the dealing in relation to each card hand is finished, the game enters its end-result period. The pit staff enter the end-result (i.e. the winning card hand or hands) as for the first embodiment of the invention and if the individual using the personal computer 14 placed a winning bet then the winnings are transmitted accordingly. As for the first embodiment of the invention, after a predetermined interval, the pit staff commence a new blackjack game, by clearing the card game table, dealing new hands and entering in the pit terminal 4 that a new setting up period has begun. The process previously described may then be repeated.

In a further embodiment of the present invention, the live gambling event 1 comprises a video slot machine. The slot machine is one generally known in the art comprising three independently spinnable wheels, a series of symbols being provided at regular intervals along the outer rim of each wheel. The three wheels are arranged, with their respective axes in line, in a housing. The housing has an elongate window, parallel to the axes of the three wheels, through which at least one symbol on each wheel is visible. The symbol on each wheel that is visible changes as the wheel spins.

The normal function of such a video slot machine is generally as follows. A bet is placed in relation to the video slot machine in a setting up period. The wheels of the slot machine are then set spinning which commences the spinning period of the game. Each of the three wheels of the video slot

machine is stopped at a random moment such that a particular symbol on each wheel is visible through the window in the housing of the video slot machine. Once each wheel is stopped, the end-result period of the game begins and winnings are determined on the basis of the particular combination of symbols on the three wheels visible through the window in the housing of the video slot machine.

In this embodiment of the invention, instead of the first and second cameras 2, 3, a sensor detects the movement of each of the three wheels of the video slot machine and, in particular, which of the symbols is visible on each wheel through the window in the housing of the video slot machine. Furthermore, instead of the pit terminal 4, a further sensor automatically detects the status of the game.

In use of this embodiment of the invention, the sensor detects the position of each of the three wheels of the video slot machine and generates a corresponding digitised representation of the image that would be visible of the three wheels of the video slot machine through the window in the housing by an individual physically present at the video slot machine. The generated representation is transmitted to the personal computer 14 and is displayed in the live image 18 as described in relation to the first embodiment of the invention. The user of the personal computer 14 may then place a bet in relation to the video slot machine during this setting up period. When the duration of the set up period (usually 10 seconds) has expired the wheels of the video slot machine are set spinning. The spinning of the wheels is detected by the further sensor, which, in turn, transmits the information regarding the change of status of the game to the personal computer 14. The personal computer 14 then updates the web page 15 in a corresponding manner as for the first embodiment of the invention.

When each of the three wheels of the video slot machine has stopped, the end-result period begins. The generated representation of the symbols that are visible on the video slot machine is transmitted to the personal computer 14 and is displayed in the live image 18. If the individual using the personal computer 14 placed a winning bet then the winnings are transmitted accordingly. A new game on the video slot machine is then begun with the further sensor transmitting to the personal computer 14 an indication of the start of the setting up period in which new bets may be taken. The process previously described may then be repeated.

It is to be appreciated that in other embodiments of the invention, a different number of wheels may be provided in the video slot machine instead of the three wheels described above. In particular, it is envisaged that video slot machines having one, five or even nine wheels may be provided.

In the present specification "comprise" means "includes or consists of" and "comprising" means "including or consisting of".

The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, as appropriate, may, separately, or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

CLAIMS

1. A gambling apparatus comprising: at least one sensor for monitoring the progress of a live gambling event having a set up period and an end-result period and generating at least a still representation of the live gambling event; a display operable to be in communication with the at least one sensor and capable of showing the at least one still representation of the live gambling event; a communication link between the at least one sensor and the display; and a processor operable to be in communication with the display and to provide an animation corresponding to the status of the live gambling event on the display.
2. A gambling apparatus according to Claim 1, wherein the at least one sensor is capable of generating at least a still representation of the live gambling event at the end-result period.
3. A gambling apparatus according to Claim 1 or 2, wherein the display provides a combination of the at least one still representation and the animation.
4. A gambling apparatus according to any one of the preceding claims, further comprising a bandwidth monitor operable to determine information concerning the bandwidth of the communication link between the at least one sensor and the display and to vary the quantity of the data from the at least one sensor, displayed by the display in response to the bandwidth information from the bandwidth monitor.

5. A gambling apparatus according to Claim 4, wherein the processor is provided on the communication link between the at least one sensor and the display.
6. A gambling apparatus according to Claim 5, wherein the bandwidth monitor comprises; a high frequency signal generator provided on the communication link between the at least one sensor and the processor; and signal detection means operably connected to the processor, the high frequency signal having a series of harmonics such that, in response to the high frequency signal, the value of the frequency of the highest harmonic received is determined and communication of data to the processor at that frequency is enabled.
7. A gambling apparatus according to Claim 6, wherein the value of the frequency of the highest harmonic received is determined periodically during communication of data between the at least one sensor and the display.
8. A gambling apparatus according to Claims 7, wherein the value of the frequency of the highest harmonic received is determined every 100th of a second so as to allow variation of the frequency of data transmission between the at least one sensor and the display every 100th of a second.
9. A gambling apparatus according to any one of the preceding claims, wherein the communication link between the at least one sensor and the display comprises the Internet.
10. A gambling apparatus according to any one of the preceding claims, wherein the communication link between the at least one sensor and the display comprises a telephone line.

11. A gambling apparatus according to any one of the preceding claims, wherein the display and the processor are comprised in a personal computer.

12. A gambling apparatus according to any one of the preceding claims, wherein the at least one sensor comprises a camera for capturing an image of the live gambling event, the representation of the live gambling event being the image.

13. A gambling apparatus according to Claim 12, wherein the image of the event shown by the display is a live video image of the event.

14. A gambling apparatus according to Claim 12 or 13, wherein the image is a video image and means are provided to determine changing parts of the video image, the data transmitted to the display, via the processor, being supplemented only with changing parts of the video image.

15. A gambling apparatus according to any one of Claims 12 to 14, wherein the at least one sensor comprises first and second cameras, each directable at a different view of the live gambling event.

16. A gambling apparatus according to Claim 15, wherein the display shows an image from the first camera during the set up period and an image from the second camera during the end-result period.

17. A gambling apparatus according to any one of the preceding claims, further comprising data entry means locatable adjacent the live gambling event and operable to be in communication with the processor for entry of data

relating to the status and/or end-result of the event and transmission to the processor.

18. A method of remotely monitoring a live gambling event having a set up period and an end-result period comprising the steps of: monitoring the progress of the live gambling event and generating at least a still representation of the event; producing an animation of the gambling event; presenting the gambling event at a location remote from the gambling event as a combination of the animation and the generated representation of the live gambling event.

19. A method according to Claim 18, wherein the at least one still representation of the live gambling event comprises a still representation at the end-result period.

20. A method according to Claim 18 or 19, wherein the animation and the generated image are presented as a superimposition.

21. A method according to any one of Claims 18 to 20, wherein the step of monitoring the progress of the live gambling event and generating at least a still representation of the event comprises capturing at least a still image of the live gambling event.

22. A method according to Claim 21, wherein the step of capturing at least a still image comprises capturing at least a first still image of a first view of the event in the setting up period and capturing at least a second image of a second view of the event in the end-result period, the first view being different from the second view.

23. A method according to Claim 21 or 22, wherein the captured image comprises a captured video image.

24. A method according to any one of Claims 18 to 23, further comprising the step of determining the bandwidth of the communication between the gambling event and the presentation location and varying the quantity of data transmitted dependent on the bandwidth available.

25. A method according to any one of Claims 18 to 24, conducted using the apparatus of any one of Claims 1 to 17.

26. A gambling apparatus comprising: at least one camera for capturing an image of a live gambling event having a set up period and an end-result period; a display operable to be in communication with the at least one camera and capable of showing at least a still image of the live gambling event; a communication link between the at least one camera and the display; and a processor operable to be in communication with the display and to provide an animation corresponding to the status of the live gambling event on the display.

27. A gambling apparatus substantially as herein described with reference to and as shown in the accompanying drawings.

28. A method substantially as herein described with reference to the drawings.

AMENDED CLAIMS

[received by the International Bureau on 11 March 2002 (11.03.02);
original claim 1 amended; remaining claims unchanged (1 page)]

1. A gambling apparatus comprising: at least one sensor for monitoring the progress of a live gambling event having a set up period and an end-result period and generating at least a still representation of the live gambling event; a display operable to be in communication with the at least one sensor and capable of showing the at least one still representation of the live gambling event; a communication link between the at least one sensor and the display; and a processor operable to be in communication with the display and to provide an animation, on the display, corresponding to a period within which the live gambling event is at that time.
2. A gambling apparatus according to Claim 1, wherein the at least one sensor is capable of generating at least a still representation of the live gambling event at the end-result period.
3. A gambling apparatus according to Claim 1 or 2, wherein the display provides a combination of the at least one still representation and the animation.
4. A gambling apparatus according to any one of the preceding claims, further comprising a bandwidth monitor operable to determine information concerning the bandwidth of the communication link between the at least one sensor and the display and to vary the quantity of the data from the at least one sensor, displayed by the display in response to the bandwidth information from the bandwidth monitor.

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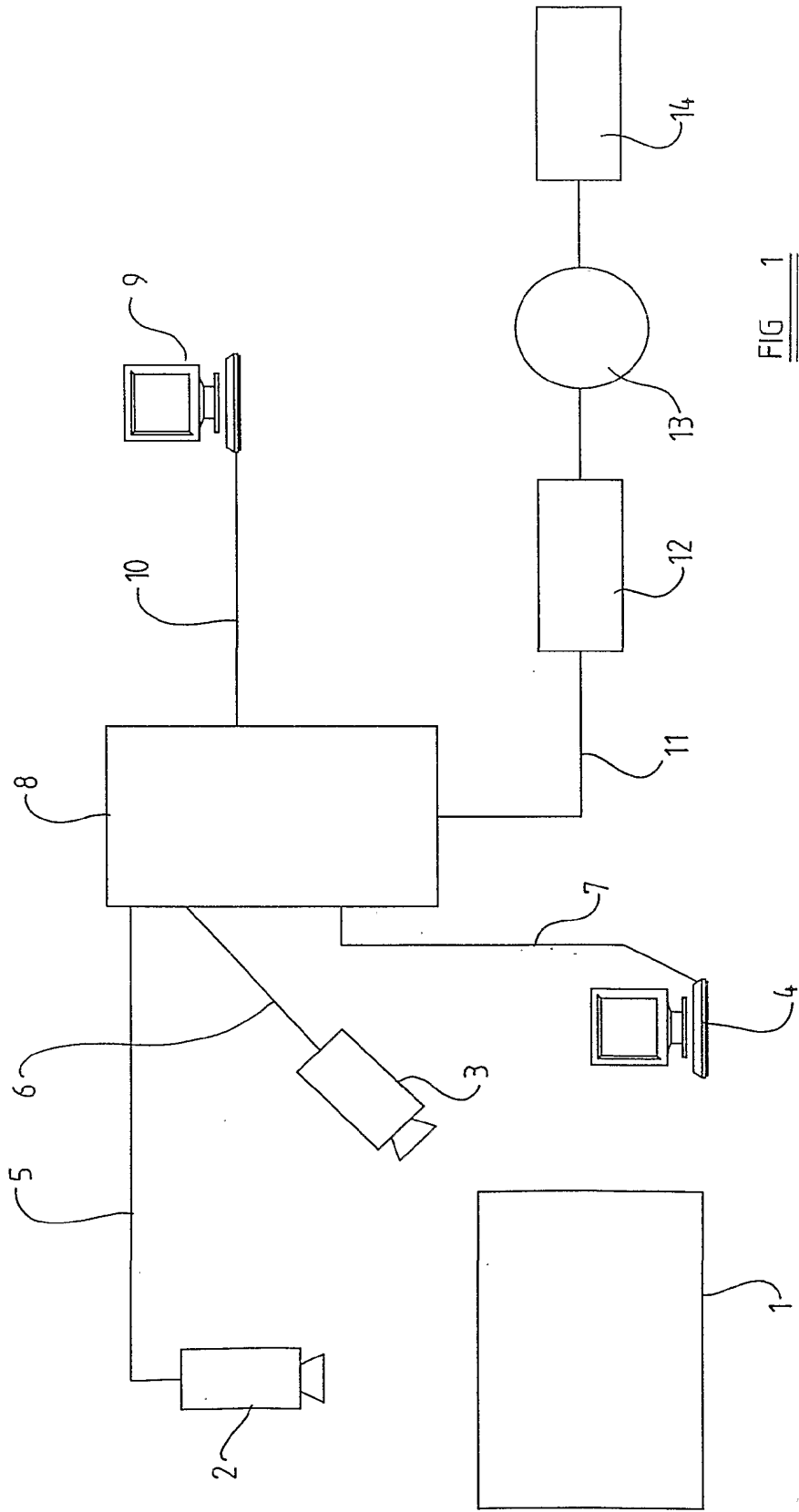
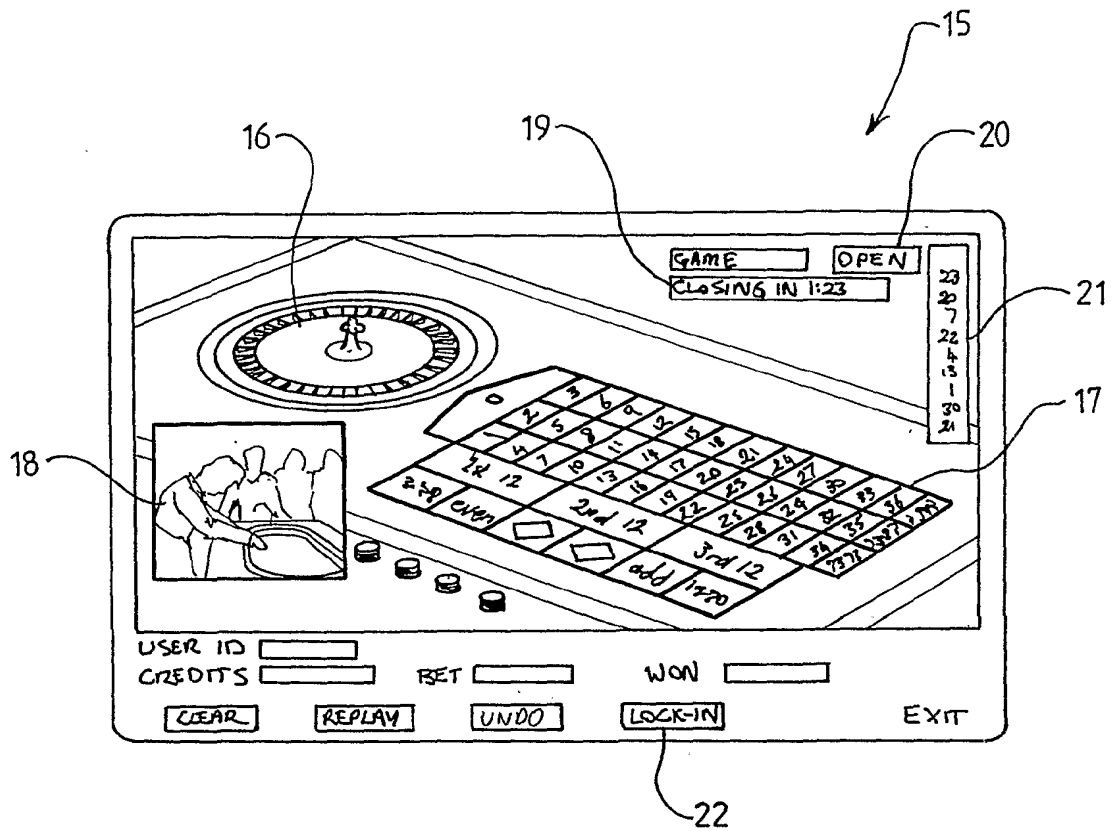


FIG 1

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INTERNATIONAL SEARCH REPORT

In ☐ National Application No

PCT/GB 01/04277

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G07F17/32 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G07F G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 762 552 A (VUONG ET AL.) 9 July 1998 (1998-07-09)	1-3, 9-13, 15-23, 26
Y	column 2, line 7 - line 25 column 5, line 24 - line 35 column 6, line 49 - column 7, line 4 column 7, line 26 - line 36 column 9, line 63 - column 11, line 12 column 12, line 18 - line 23; figures 1-3, 5	14
Y	WO 00 30729 A (NEW MILLENIUM GAMING) 2 June 2000 (2000-06-02) page 13, line 10 - line 31; figure 2 -/--	14



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Int'l Patent Application No
PCT/GB 01/04277

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00 25876 A (MIR ET AL.) 11 May 2000 (2000-05-11) page 5, last paragraph -page 6, line 6 page 13, line 5 -page 14, line 11; figure 3 -----	1-3, 9-23, 26

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 01/04277

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5762552	A	09-06-1998	NONE	
WO 0030729	A	02-06-2000	AU 1815100 A WO 0030729 A1	13-06-2000 02-06-2000
WO 0025876	A	11-05-2000	AU 1234200 A EP 1124617 A1 WO 0025876 A1	22-05-2000 22-08-2001 11-05-2000